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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,974	01/29/2004	Brian T. Denton	BUR920040009US1	1973

29154 7590 07/21/2008

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EXAMINER
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KARDOS, NEIL R

ART UNIT	PAPER NUMBER
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3623

MAIL DATE	DELIVERY MODE
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07/21/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/707,974	<b>Applicant(s)</b> DENTON ET AL.	
	<b>Examiner</b> Neil R. Kardos	<b>Art Unit</b> 3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/29/04, 2/20/04</u> .  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This is a **NON-FINAL** Office action on the merits in response to the application filed on January 29, 2004. Currently, claims 1-27 are pending.

#### ***Claim Objections***

2. **Claims 1-27 are objected to because of the following informalities:**

The recitation of "rescheduling of the timing of purchase order receipts" is unclear. The specification equates "purchase order receipts" to "line items on purchase orders" (see paragraph 19). How can the timing of a line item be rescheduled? Clarification is required

#### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 1-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Claim 1: Claim 1 recites the limitation "said purchase order receipts" in the "post-processing" step. One of ordinary skill in the art would not know whether this limitation refers to the purchase order receipts of the "pre-processing" step or the rescheduled purchase order receipts of the "solving" step.

Claim 1 is also rejected as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. It is not clear how the steps are

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interrelated. For example, the claim recites “pre-processing” and “post-processing”, yet does not recite any “processing” step. Any of these steps could be construed as a processing step.

Claim 8: Claim 8 recites the limitation "purchase order receipts" in the "wherein" clause of the “post-processing” step. It is not clear whether this limitation refers to the purchase order receipts of the "pre-processing" step, the purchase order receipts of the "sorting" step, or an entirely new set of purchase order receipts.

Claim 8 is also rejected as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. It is not clear how the steps are interrelated. For example, the claim recites “pre-processing” and “post-processing”, yet does not recite any “processing” step. Any of these steps could be construed as a processing step.

Claim 15: Claim 15 recites the limitation "said purchase order receipts" in the “sorting” and "post-processing" step. One of ordinary skill in the art would not know whether this limitation refers to the purchase order receipts of the "pre-processing" step or the rescheduled purchase order receipts of the "solving" step.

Claim 15 also recites the limitation "purchase order receipts" in the "wherein" clause of the “post-processing” step. It is not clear whether these limitations refer to the purchase order receipts of the "pre-processing" step, the "solving” step, the “sorting" step, or an entirely new set of purchase order receipts.

Claim 15 is also rejected as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. It is not clear how the steps are

interrelated. For example, the claim recites “pre-processing” and “post-processing”, yet does not recite any “processing” step. Any of these steps could be construed as a processing step.

Claim 21: Claim 21 recites the limitation “purchase order receipts” in the “wherein” clause of the “post-processing” step. It is not clear whether this limitation refers to the purchase order receipts of the “pre-processing” step, the purchase order receipts of the “sorting” step, or an entirely new set of purchase order receipts.

Claim 21 is also rejected as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. It is not clear how the steps are interrelated. For example, the claim recites “pre-processing” and “post-processing”, yet does not recite any “processing” step. Any of these steps could be construed as a processing step.

Claims 2-7, 9-14, 16-20, and 22-27: The dependent claims are rejected for failing to remedy the deficiencies of the claims from which they depend.

### ***Claim Rejections - 35 USC § 101***

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. **Claims 1-22 and 24-27 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.**

Claims 1, 8, and 15: Claims 1, 8, and 15 are directed toward the statutory category of a process. In order for a claimed process to be patentable subject matter under 35 U.S.C. § 101, it

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must either: (1) be tied to another statutory class (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or materials) to a different state or thing. *See Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972). If neither of these requirements is met by the claim, the method/process is not patentable subject matter under § 101. Thus, to qualify as a statutory process under § 101, the claim should positively recite the other statutory class to which it is tied (e.g. by identifying the apparatus that accomplishes the method steps), or positively recite the subject matter that is being transformed (e.g. by identifying the material that is being changed to a different state).

Here, the claims are not tied to another statutory category (e.g. an apparatus for carrying out the method), nor do they transform underlying subject matter. Thus, claims 1, 8, and 15 are not statutory subject matter under § 101.

Claims 1, 8, and 21: Claims 1, 8, and 21 contain the abstract idea of solving equations; therefore, they fall within a 35 U.S.C. 101 judicial exception. A claimed invention falling within a judicial exception may be statutory if it has a practical application; that is, if it produces (1) a physical transformation or (2) a useful, concrete, and tangible final result. *See AT&T v. Excel Communications Inc.*, 172 F.3d at 1358, 50 USPQ 2d at 1452; *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d at 1373, 47 USPQ 2d at 1601 (Fed. Cir. 1998).

The claimed invention does not transform an article or physical object to a different state because it solves equations to create a schedule. Therefore, the test for practical application as applied by the examiner involves determining whether the claimed invention produces a useful, concrete, and tangible final result. Utility may be evidenced by a specific (particular to a subject

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matter), substantial (real-world), and credible (logical) final result. Concreteness may be evidenced by repeatability with substantially the same result. Tangibility may be evidenced by a non-abstract real-world result.

Regarding claim 1, the claimed invention does not produce a concrete final result.

Without any guidance on how to reschedule the receipts into earlier and later time periods, the claimed method is unrepeatable and unpredictable. In contrast, the other independent claims recite moving the receipts into the earliest and latest allowable time periods, which is repeatable with substantially the same result. However, removing this limitation introduces subjectivity into the rescheduling, and repeatedly performing the method according to the claimed limitations could produce wildly inconsistent and random results. Furthermore, without guidance regarding rescheduling, the claimed invention does not produce a useful result. That is, the generated schedule may have no practical application.

Regarding claims 8 and 21, the claimed invention does not produce a concrete final result. Without any guidance on how to sort the receipts, the claimed method is unrepeatable and unpredictable. In contrast, claim 15 recites sorting the receipts based on rescheduling flexibility, which is repeatable with substantially the same result. However, removing this limitation introduces subjectivity into the sorting, and repeatedly performing the method according to the claimed limitations could produce wildly inconsistent and random results. Furthermore, without guidance regarding sorting, the claimed invention does not produce a useful result. That is, the generated schedule may have no practical application.

Claims 2-7, 9-14, 16-20, 22, and 24-27: The dependent claims are rejected for failing to remedy the deficiencies of the claims from which they depend.

***Remarks***

7. Due to the deficiencies discussed above, the prior art will be applied to the claimed invention as best understood.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**9. Claims 1-9, 11, 13-14, 21-22, 24, and 26-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Lilly (US 6,088,626).**

Claim 1: Lilly discloses a method for determining a production plan comprising:

- performing a pre-processing rescheduling of the timing of purchase order receipts into earlier time periods (see figure 2: “Backward Schedule”; figure 8: item 83; col. 9-14);
- solving core production planning system equations using rescheduled purchase order receipts (see col. 9-14); and



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- performing a post-processing rescheduling of the timing of said purchase order receipts into later time periods (see figure 3: “Forward Schedule”; figure 8: item 85; col 9-14).

Claim 2: Lilly discloses wherein said pre-processing rescheduling is based upon a field that indicates whether a receipt may be rescheduled to an earlier point in time (see col 10: item 2; col. 10: ln. 4-21; col. 9-14).

Claim 3: Lilly discloses wherein said pre-processing rescheduling is based upon frozen zone rules (see col. 5: ln. 65-67; col. 11: ln. 1-12: "minimum move quantity"; col. 9-14).

Claim 4: Lilly discloses wherein said post-processing rescheduling is based upon one of a date of need, frozen zone rules, and date tolerances (see id.).

Claim 5: Lilly discloses sorting of purchase order receipts (see col. 12: ln. 65 through col. 13: ln. 3; col. 9-14).

Claim 6: Lilly discloses wherein said sorting of purchase order receipts is based upon one of arrival dates, purchase order receipt quantity, and the flexibility of purchase order receipt movement with respect to frozen zone rules (see col. 9: ln. 14-38; col. 9-14).

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Claim 7: Lilly discloses recomputing ending inventory levels to reflect said post-processing rescheduling (see col. 8: ln. 45 through col. 9: ln.13; col. 11: ln. 13-44; col. 9-14).

Claims 8-9: Claims 8-9 are substantially similar to claims 1-2 and are rejected under similar rationale.

Claim 11: Lilly discloses wherein said post-processing rescheduling process reschedules the timing of each of said purchase order receipts into the latest time period before the corresponding inventory level would be depleted to zero (see col. 11: ln. 13-45; col. 9-14).

Claim 13: Claim 13 is substantially similar to claim 7 and is rejected under similar rationale.

Claim 14: Lilly discloses wherein said post-processing rescheduling process limits rescheduling of said purchase order receipts to comply with contractual obligations and to avoid trivial rescheduling (see col. 5: ln. 65 through col. 6: ln. 10; col. 9-14).

Claims 21-22, 24, 26-27: Claims 21-22, 24, and 26-27 are substantially similar to claims 8-9, 11, and 13-14 and are rejected under similar rationale.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. **Claims 10, 12, 15-20, 23, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lilly.**

Claim 10: Lilly discloses sorting purchase order receipts into different classes of rescheduling flexibility (see col. 10: ln. 4-21; col. 9-14). Lilly also discloses sorting purchase order receipts into different classes of arrival dates (see col. 5: ln. 65 through col. 6: ln. 10; col. 7: ln. 8-32; col. 9: ln. 14-37; col. 9-14). Lilly further discloses sorting based on quantities (see col. 8: ln. 45 through col. 9: ln. 12).

Lilly does not explicitly disclose sorting into classes and subclasses. However, Examiner takes Official Notice that this is a well-known sorting technique. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the different sorts disclosed by Lilly according to well-known methods in order to obtain subclasses of sorting groups. This combination of known elements retains the functionality of the separate elements and produces a result that would be predictable to one of ordinary skill in the art.

Claim 12: Lilly does not explicitly disclose wherein if a purchase order receipt timing can be extended beyond the latest date of the planning horizon of said linear programming production planning system, said purchase order receipt is eliminated.

However, Examiner takes Official Notice that it is old and well-known to exclude data that falls outside of a planning period. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to exclude data falling outside of the planning horizon of Lilly. This combination of known elements retains the functionality of the separate elements and produces a result that would be predictable to one of ordinary skill in the art.

Claim 15: Claim 15 is substantially similar to previously rejected claims (in particular, claims 1, 8, and 10) and is rejected under similar rationale.

Claims 16-20: Claims 16-20 are substantially similar to claims 9-13 and are rejected under similar rationale.

Claims 23 and 25: Claims 23 and 25 are substantially similar to claims 10 and 12 and are rejected under similar rationale.

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- US 2005/0144056 to Wang et al, directed to capacity reservation

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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Neil R. Kardos whose telephone number is (571) 270-3443. The examiner can normally be reached on Monday through Friday from 9 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Beth Van Doren can be reached on (571) 272-6737. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Neil R. Kardos  
Examiner  
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